wherein said mutant FRT sequence is any one of SEQ ID NOS: 2 to 5.

REMARKS

Enclosed herewith in full compliance with 37 C.F.R. §§1.821-1.825 is a Substitute Sequence Listing to be inserted into the specification as indicated above. The Substitute Sequence Listing in no way introduces new matter into the specification. Also submitted herewith in full compliance with 37 C.F.R. §§1.821-1.825 is a disk copy of the Substitute Sequence Listing. The disk copy of the Substitute Sequence Listing, file "1422-0527P.st25A.txt", is identical to the paper copy, except that it lacks formatting.

The specification and claims have been amended to include the SEQ ID NOS where appropriate. No new matter is introduced by these amendments.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,
BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
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JWB/LPS

Attachments:
Disk Copy of Substitute Sequence Listing
Paper Copy of Substitute Sequence Listing
Copy of Notice
Version with Markings Showing Changes Made

(Rev. 03/27/01)

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning on page 4, line 14, has been amended as follows:

Concretely, the present invention relates to:

[1] a DNA comprising a mutant FRT sequence having a sequence resulting from substitution of nucleotides at middle 8-bp (spacer region) in the following wild type FRT sequence (SEQ ID NO: 1) derived from yeast 2 μ DNA:

	12345678	
5'-GAAGTTCCTATAC	TTTCTAGA	GAATAGGAACTTC-3'
	spacer region	

with nucleotide sequences selected from the group consisting of the following (1) to (4):

(1) TCTCTGGA (f2161) **(SEQ ID NO:2)**

(2) TCTCCAGA (f2151) **(SEQ ID NO:3)**

(3) TATCTTGA (f2262) **(SEQ ID NO:4)** and

(4) TTTCTGGA (f61) **(SEQ ID NO:5)**

wherein said mutant FRT sequence is any one of SEQ ID NO[s]**S**: 2 to 5;

The paragraph beginning on page 9, line 19, has been amended as follows:

The DNA comprising the mutant FRT sequence of the present invention is a DNA comprising a mutant FRT sequence having a sequence resulting from substitution of nucleotides at middle 8-bp (spacer region) in the following wild type FRT sequence (SEQ ID NO: 1) derived from yeast 2 μ DNA:

	12345678	
5'-GAAGTTCCTATAC	TTTCTAGA	GAATAGGAACTTC-3'
	spacer region	

with nucleotide sequences selected from the group consisting of the following (1) to (4):

(1) TCTCTGGA (f2161) **(SEQ ID NO:2)**

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(2) TCTCCAGA (f2151) **(SEQ ID NO:3)**

(3) TATCTTGA (f2262) **(SEQ ID NO:4)** and

(4) TTTCTGGA (f61) **(SEQ ID NO: 5)**

wherein said mutant FRT sequence is any one of SEQ ID NOs: 2 to 5. Since the DNA of the present invention comprises a sequence selected from the group consisting of the items (1) to (4) mentioned above, there are exhibited excellent properties such that in the presence of FLP recombinase, a recombination reaction between two mutant FRT sequences each having an identical sequence to each other is caused, but no recombination reaction with the wild-type FRT sequence is caused. Further, by using the DNA of the present invention, gene replacement can be performed with an even higher efficiency of gene replacement.

The paragraph beginning on page 44, line 19, has been amended as follows:

The expression plasmid pEGFP-C1 (4.7 kb, manufactured by CLONTECH) was inserted with DNA sequence encoding mutant green fluorescent protein (GFP). Thereafter, the following synthetic DNA linkers of 18 bp:

5' -GATCTTACTAGTAGGATC-3' (SEQ ID NO:35)

3'-AATGATCATCCTAGAGCT-5' (**presented in the 5'-3' direction,** SEQ ID NO:36),

which were designed to have a *Bgl*II site at one end and an *Xho*I site at the other end as well as to contain continuous two stop codons in its sequence, were inserted between the *Bgl*II site and *Xho*I site in the multi-cloning site present between the 3'-end of GFP gene and poly(A) sequence on plasmid pEGFP-C1, to give plasmid pEGFP-s.

IN THE CLAIMS:

1. (Amended) A DNA comprising a mutant FRT sequence having a sequence resulting from substitution of nucleotides at middle 8-bp (spacer region) in the following wild type FRT sequence (SEQ ID NO: 1) derived from yeast 2 μ DNA:

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12345678
5'-GAAGTTCCTATAC TTTCTAGA GAATAGGAACTTC-3'
spacer region

with nucleotide sequences selected from the group consisting of the following (1) to (4):

(1) TCTCTGGA (f2161) **(SEQ ID NO:2)**

(2) TCTCCAGA (f2151) **(SEQ ID NO:3)**

(3) TATCTTGA (f2262) **(SEQ ID NO:4)** and

(4) TTTCTGGA (f61) **(SEQ ID NO:5)**

wherein said mutant FRT sequence is any one of SEQ ID NO[s]S: 2 to 5.

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